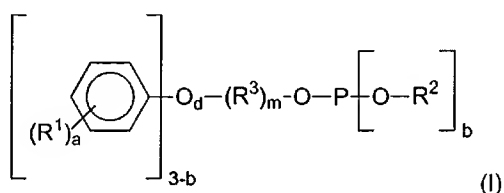


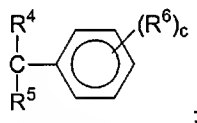
Claims

- [c1] 1. A process for reducing phenol emissions from a polymer resin comprising the step of adding at least one phosphite additive of formula (I) to said resin, wherein said formula (I) comprises:



wherein

R¹ is



R² is selected from the group consisting of C₈₋₁₆ alkyls;

R³ is selected from the group consisting of C₁₋₄ alkyls;

m is an integral value ranging from 0 to 1 inclusive;

a is an integral value ranging from 1 to 4 inclusive;

b is an integral value ranging from 1 to 2 inclusive;

R⁴ and R⁵ are independently selected from the group consisting of C₁₋₃ alkyls;

R⁶ is selected from the group consisting of C₈₋₁₂ alkyls and C₈₋₁₂ alkoxy compounds;

c is an integral value ranging from 0 to 4 inclusive; and

d is equal to m.

- [c2] 2. The process of claim 1 wherein

R² is C₁₀H₂₁;

R³ is selected from the group consisting of ethyl and propyl alkyls;

m is 1;

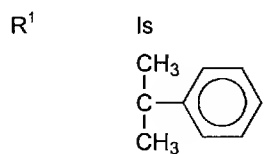
a is 1;

R⁴ and R⁵ are methyl;

c is 0; and

d is 1.

[c3] 3. The process of claim 2 wherein

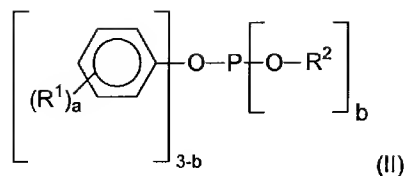


[c4] 4. The process of claim 3 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite and propoxy-paracumylphenyl diisodecyl phosphite.

[c5] 5. The process of claim 4 wherein said polymer resin is a halogenated resin.

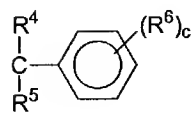
[c6] 6. The process of claim 5 wherein said halogenated resin is polyvinyl chloride.

[c7] 7. A process for reducing phenol emissions from a polymer resin comprising the step of adding at least one phosphite additive of formula (II) to said resin, wherein said formula (II) comprises:



wherein

R^1 is



R^2 is selected from the group consisting of C_{8-16} alkyls;

a is an integral value ranging from 1 to 4 inclusive;

b is an integral value ranging from 1 to 2 inclusive;

R^4 and R^5 are independently selected from the group consisting of C_{1-3} alkyls;

R^6 is selected from the group consisting of C_{8-12} alkyls and C_{8-12} alkoxy compounds; and

c is an integral value ranging from 0 to 4 inclusive.

[c8] 8. The process of claim 7 wherein

R^2 is $\text{C}_{10}\text{H}_{21}$;

a is 1;

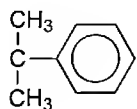
b is an integral value ranging from 1 to 2 inclusive;

R^4 and R^5 are methyl; and

c is 0.

[c9] 9. The process of claim 8 wherein

R^1 is



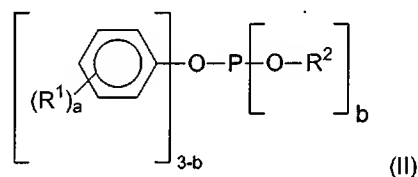
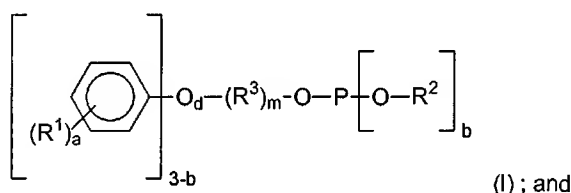
[c10] 10. The process of claim 9 wherein said phosphite is selected from the group consisting of para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.

[c11] 11. The process of claim 10 wherein said polymer resin

is a halogenated resin.

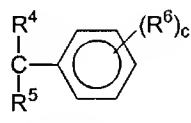
[c12] 12. The process of claim 11 wherein said halogenated resin is polyvinyl chloride.

[c13] 13. A process for reducing phenol emissions from a polymer resin comprising the step of adding at least one phosphite additive to said resin, said at least one phosphite selected from the group consisting of formulas (I) and (II)



wherein

R^1 is



R^2 is selected from the group consisting of C_{8-16} alkyls;

R^3 is selected from the group consisting of C_{1-4} alkyls;

m is an integral value ranging from 0 to 1 inclusive;

a is an integral value ranging from 1 to 4 inclusive;

b is an integral value ranging from 1 to 2 inclusive;

R^4 and R^5 are independently selected from the group consisting of C_{1-3} alkyls;

R^6 is selected from the group consisting of C_{8-12} alkyls and C_{8-12} alkoxy compounds;

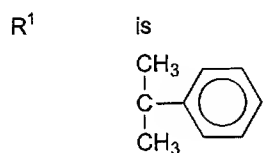
c is an integral value ranging from 0 to 4 inclusive; and

d is equal to m .

[c14] 14. The process of claim 13 wherein

R^2 is $C_{10}H_{21}$;
 R^3 is selected from the group consisting of ethyl and propyl alkyls;
 m is 1;
 a is 1;
 R^4 and R^5 are methyl;
 c is 0; and
 d is 1.

[c15] 15. The process of claim 14 wherein



[c16] 16. The process of claim 15 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite, propoxy-paracumylphenyl diisodecyl phosphite, para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.

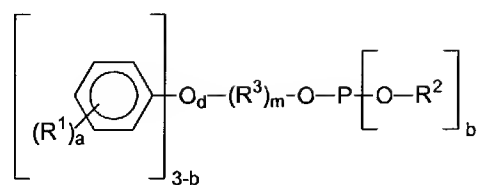
[c17] 17. The process of claim 16 wherein said polymer resin is a halogenated resin.

[c18] 18. The process of claim 17 wherein said halogenated resin is polyvinyl chloride.

[c19] 19. A process for reducing the emission of phenol from a polymer resin which comprises replacing at least a portion of a phosphite additive which emits phenol from said resin with a phosphite composition selected from

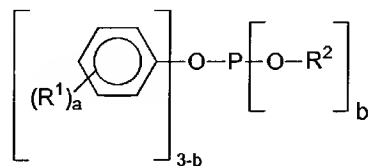
the group consisting of

formula (I)



(I) and

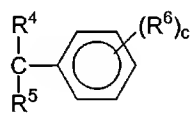
formula (II)



(II)

wherein

R^1 is



;

R^2 is selected from the group consisting of C_{8-16} alkyls;

R^3 is selected from the group consisting of C_{1-4} alkyls;

m is an integral value ranging from 0 to 1 inclusive;

a is an integral value ranging from 1 to 4 inclusive;

b is an integral value ranging from 1 to 2 inclusive;

R^4 and R^5 are independently selected from the group consisting of C_{1-3} alkyls;

R^6 is selected from the group consisting of C_{8-12} alkyls and C_{8-12} alkoxy compounds;

c is an integral value ranging from 0 to 4 inclusive; and

d is equal to m .

[c20] 20. The process of claim 19 wherein

R^2 is $\text{C}_{10}\text{H}_{21}$;

R^3 is selected from the group consisting of ethyl and propyl alkyls;

m is 1;

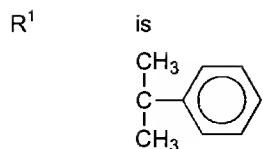
a is 1;

R^4 and R^5 are methyl;

c is 0; and

d is 1.

[c21] 21. The process of claim 20 wherein



- [c22] 22. The process of claim 21 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite, propoxy-paracumylphenyl diisodecyl phosphite, para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.
- [c23] 23. The process of claim 22 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite and propoxy-paracumylphenyl diisodecyl phosphite.
- [c24] 24. The process of claim 22 wherein said phosphite is selected from the group consisting of para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.
- [c25] 25. The process of claim 22 wherein said polymer resin is a halogenated resin.
- [c26] 26. The process of claim 25 wherein said halogenated resin is polyvinyl chloride.